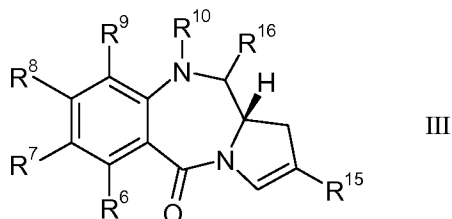


# AMENDMENTS TO THE CLAIMS

1-13. (Cancelled)

14. (Currently amended) A compound of formula **III**:



or a pharmaceutically acceptable salt thereof, wherein:

R<sup>6</sup> and R<sup>9</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo;

R and R' are independently selected from optionally substituted C<sub>1-12</sub> alkyl, C<sub>3-20</sub> heterocyclyl and C<sub>5-20</sub> aryl groups;

the compound being a dimer with each monomer being of formula (**III**), where the R<sup>8</sup> groups of each monomer form together a dimer bridge having the formula -X-R"-X- linking the monomers, where R" is a C<sub>3-12</sub> alkylene group, which chain may be interrupted by one or more heteroatoms and/or aromatic rings, and each X is independently selected from O, S, or NH, and R<sup>7</sup> is selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo, or any pair of adjacent groups from R<sup>6</sup> to R<sup>9</sup> together form a group

-O-(CH<sub>2</sub>)<sub>p</sub>-O-, where p is 1 or 2;

either R<sup>10</sup> and R<sup>16</sup> together form a double bond between N10 and C11, or R<sup>10</sup> is H and R<sup>16</sup> is OH, and ;

R<sup>15</sup> is an optionally substituted C<sub>5-20</sub> aryl group,

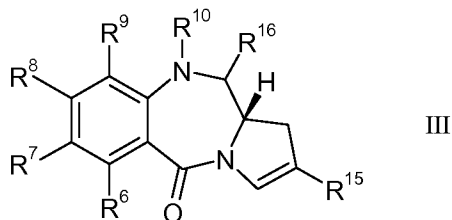
wherein the ~~optionally optional~~ substituents are independently selected from the group consisting of C<sub>1-12</sub> alkyl, C<sub>3-12</sub> cycloalkyl, C<sub>3-20</sub> heterocyclyl, C<sub>5-20</sub> aryl, halo, hydroxyl, ether -OR<sup>1</sup> wherein R<sup>1</sup> is a C<sub>1-7</sub> alkyl group or C<sub>3-20</sub> heterocyclyl group or C<sub>5-10</sub> aryl group, alkoxy, acetal -CH(OR<sup>1</sup>)(OR<sup>2</sup>) wherein R<sup>1</sup> is as defined above and R<sup>2</sup> is independently a C<sub>1-7</sub> alkyl group or C<sub>3-20</sub> heterocyclyl group or C<sub>5-10</sub> aryl group or R<sup>1</sup> and R<sup>2</sup> together with the two oxygen atoms to which they are attached form a heterocyclic ring having from 4 to 8 ring atoms, hemiacetal -CH(OH)(OR<sup>1</sup>) wherein R<sup>1</sup> is as defined above, ketal, hemiketal, oxo, thione, imino, formyl, acyl, carboxy, thiocarboxy, thiocarboxy, imidic acid -C(=NH)OH, hydroxamic acid -C(=NOH)OH, ester -C(=O)OR<sup>1</sup> wherein R<sup>1</sup> is as defined above, acyloxy, oxycarboxyloxy, amino, amido,

thioamido, acylamido, aminocarbonyloxy, ureido, guanidine, tetrazolyl, amindino, nitro, nitroso, azido, cyano, isocyano, cyanato, isocyanato, thiocyno, isothiocyano, sulfhydryl, thioether, disulfide, sulfine, sulfone, ~~sulfinic acid~~  $-S(=O)OH$ ,  $-SO_2H$ , ~~sulfenic acid~~  $-S(=O)_2OH$ ,  $-SO_3H$ , sulfinate, sulfonate, sulfinyloxy, sulfonyloxy, sulfate, sulfamyl, sulfonamide, sulfamino, sulfonamino, sulfinamino, phosphino, phosphor, phosphinyl, phosphono, ~~phosphono ester~~  $-P(=O)(OR^{17})_2$  wherein  $R^{17}$  is  $-H$  or  $C_{1-7}$  alkyl group or  $C_{3-20}$  heterocyclyl group or  $C_{5-20}$  aryl group, ~~phosphonoxy ester~~  $-PO(=O)(OR^{17})_2$  wherein  $R^{17}$  is as defined above, ~~phosphorous acid~~  $-OP(OH)_2$ , phosphate, phosphoramidite, ~~or and phosphoramidate~~; and wherein heteroatoms of the heterocyclyl groups and the optional heteroatoms of the alkylene groups are independently selected from the group consisting of N, S, and O.

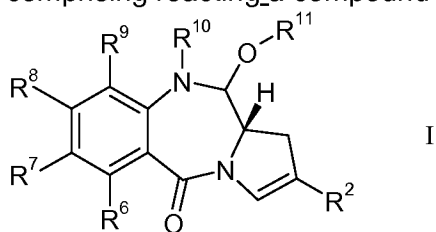
15. (Previously presented) A compound according to claim 14, wherein the dimer bridge has the formula  $-O-(CH_2)_n-O-$  linking the monomers, where n is from 3 to 12.
16. (Previously presented) A compound according to claim 15, wherein n is from 3 to 7.
17. (Previously presented) A compound according to claim 14, wherein  $R^{10}$  and  $R^{16}$  together form a double bond between N10 and C11.
18. (Previously presented) A compound according to claim 14, wherein  $R^9$  is H.
19. (Previously presented) A compound according to claim 14, wherein  $R^7$  and  $R^8$  are independently selected from H, OH, OR, SH,  $NH_2$ , NHR, NRR' and halo.
20. (Canceled)
21. (Previously presented) A pharmaceutical composition containing a compound of claim 14, and a pharmaceutically acceptable carrier or diluent.
22. (Canceled)
23. (Currently amended) A method of treatment of chronic myeloid leukemia, comprising administering to a subject in need of treatment a therapeutically-effective amount of a compound of claim 14.

24-29. (Cancelled)

30. (Currently amended) A method of ~~synthesizing~~ synthesizing a compound of formula III:



comprising reacting a compound of formula I:



with a compound of formula  $z-R^{15}$  in a coupling reaction, wherein

$R^6$  and  $R^9$  are independently selected from H, R, OH, OR, SH, SR,  $NH_2$ , NHR,  $NRR'$ , nitro,  $Me_3Sn$  and halo;

R and  $R'$  are independently selected from optionally substituted

$C_{1-12}$  alkyl,  $C_{3-20}$  heterocyclyl and  $C_{5-20}$  aryl groups;

$R^7$  and  $R^8$  are independently selected from H, R, OH, OR, SH, SR,  $NH_2$ , NHR,  $NRR'$ , nitro,  $Me_3Sn$  and halo,

or the compound is a dimer with each monomer being of formula (I), where the  $R^7$  groups or  $R^8$  groups of each monomers form together a dimer bridge having the formula  $-X-R''-X-$  linking the monomers, where  $R''$  is a  $C_{3-12}$  alkylene group, which chain may be interrupted by one or more heteroatoms and/or aromatic rings, and each X is independently selected from O, S, or NH;

or any pair of adjacent groups from  $R^6$  to  $R^9$  together form a group

$-O-(CH_2)_p-O-$ , where p is 1 or 2;

$R^{10}$  is a carbamate-based nitrogen protecting group;

$R^2$  is a labile leaving group;

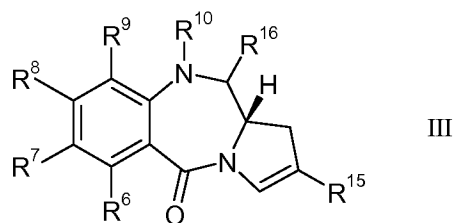
$R^{16}$  is either  $O-R^{11}$ , where  $R^{11}$  is an oxygen protecting group, or OH, or  $R^{10}$  and  $R^{16}$  together form a double bond between N10 and C11;

$z-R^{15}$  is any reactant suitable for a coupling reaction; and

$R^{15}$  is an optionally substituted  $C_{5-20}$  aryl group,

wherein the ~~optionally~~ optional substituents are independently selected from the group consisting of C<sub>1-12</sub> alkyl, C<sub>3-12</sub> cycloalkyl, C<sub>3-20</sub> heterocyclyl, C<sub>5-20</sub> aryl, halo, hydroxyl, ~~ether~~ —OR wherein R is a C<sub>1-7</sub> alkyl group or C<sub>3-20</sub> heterocyclyl group or C<sub>5-10</sub> aryl group, alkoxy, ~~acetal~~ —CH(OR<sup>1</sup>)(OR<sup>2</sup>) wherein R<sup>1</sup> is as defined above and R<sup>2</sup> is independently a C<sub>1-7</sub> alkyl group or C<sub>3-20</sub> heterocyclyl group or C<sub>5-10</sub> aryl group or R<sup>1</sup> and R<sup>2</sup> together with the two oxygen atoms to which they are attached form a heterocyclic ring having from 4 to 8 ring atoms, ~~hemiacetal~~ —CH(OH)(OR<sup>1</sup>) wherein R<sup>1</sup> is as defined above, ketal, hemiketal, oxo, thione, imino, formyl, acyl, carboxy, thiocarboxy, thiocarboxy, ~~imide acid~~ —C(=NH)OH, ~~hydroxamic acid~~ —C(=NOH)OH, ~~ester~~ —C(=O)OR<sup>1</sup> wherein R<sup>1</sup> is as defined above, acyloxy, oxycarboxyloxy, amino, amido, thioamido, acylamido, aminocarbonyloxy, ureido, guanidine, tetrazolyl, amindino, nitro, nitroso, azido, cyano, isocyano, cyanato, isocyanato, thiocyno, isothiocyano, sulfhydryl, thioether, disulfide, sulfine, sulfone, ~~sulfonic acid~~ —S(=O)OH, —SO<sub>2</sub>H, ~~sulfonic acid~~ —S(=O)<sub>2</sub>OH, —SO<sub>3</sub>H, sulfinate, sulfonate, sulfinyloxy, sulfonyloxy, sulfate, sulfamyl, sulfonamide, sulfamino, sulfonamino, sulfinamino, phosphino, phosphor, phosphinyl, phosphono, ~~phosphono ester~~ —P(=O)(OR<sup>17</sup>)<sub>2</sub> wherein R<sup>17</sup> is —H or C<sub>1-7</sub> alkyl group or C<sub>3-20</sub> heterocyclyl group or C<sub>5-20</sub> aryl group, phosphonooxy, ~~phosphonooxy ester~~ —PO(=O)(OR<sup>17</sup>)<sub>2</sub> wherein R<sup>17</sup> is as defined above, ~~phosphorous acid~~ —OP(OH)<sub>2</sub>, phosphate, phosphoramidite, ~~or and phosphoramidate~~; and wherein heteroatoms of the heterocyclyl groups and the optional heteroatoms of the alkylene groups are independently selected from the group consisting of N, S, and O.

31. (Previously presented) A method according to claim 30, wherein the synthesis of said compound of formula **III** uses a palladium catalysed coupling step.
32. (Previously presented) A method according to claim 31, wherein the palladium catalyst is Pd(PPh<sub>3</sub>)<sub>4</sub>, Pd(OCOCH<sub>3</sub>)<sub>2</sub>, PdCl<sub>2</sub> or Pd(dba)<sub>3</sub>.
33. (Previously presented) A method according to claim 31, wherein the coupling reaction is performed under microwave conditions.
34. (Previously presented) A method according to claim 31, wherein the palladium catalyst is solid supported.
35. (Currently amended) A compound of formula **III**



and salts and solvates thereof, wherein:

$R^6$  and  $R^9$  are independently selected from H, R, OH, OR, SH, SR,  $NH_2$ , NHR,  $NRR'$ , nitro,  $Me_3Sn$  and halo;

R and  $R'$  are independently selected from optionally substituted  $C_{1-12}$  alkyl,  $C_{3-20}$  heterocyclyl and  $C_{5-20}$  aryl groups;

the compound being a dimer with each monomer being of formula (III), where the  $R^8$  groups of each monomer form together a dimer bridge having the formula  $-X-R''-X-$  linking the monomers, where  $R''$  is a  $C_{3-12}$  alkylene group, which chain may be interrupted by one or more heteroatoms and/or aromatic rings, and each X is independently selected from O, S, or NH, and  $R^7$  is selected from H, R, OH, OR, SH, SR,  $NH_2$ , NHR,  $NRR'$ , nitro,  $Me_3Sn$  and halo; or any pair of adjacent groups from  $R^6$  to  $R^9$  together form a group  $-O-(CH_2)_p-O-$ , where p is 1 or 2;

$R^{10}$  is a carbamate-based nitrogen protecting group;

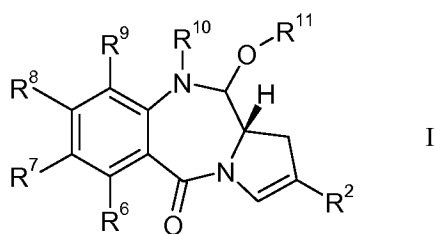
$R^{16}$  is  $-O-R^{11}$ , where  $R^{11}$  is an oxygen protecting group or H; and

$R^{15}$  is an optionally substituted  $C_{5-20}$  aryl group,

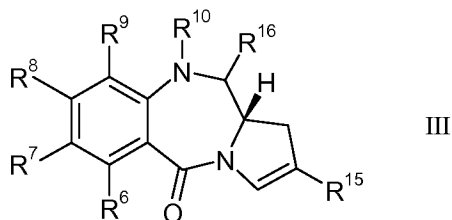
wherein the ~~optionally optional~~ substituents are independently selected from the group consisting of  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{3-20}$  heterocyclyl,  $C_{5-20}$  aryl, halo, hydroxyl, ~~ether~~  $-OR$  wherein R is a  $C_{1-7}$  alkyl group or  $C_{3-20}$  heterocyclyl group or  $C_{5-10}$  aryl group, alkoxy, acetal  $-CH(OR^1)(OR^2)$  wherein  $R^1$  is as defined above and  $R^2$  is independently a  $C_{1-7}$  alkyl group or  $C_{3-20}$  heterocyclyl group or  $C_{5-10}$  aryl group or  $R^1$  and  $R^2$  together with the two oxygen atoms to which they are attached form a heterocyclic ring having from 4 to 8 ring atoms, hemiacetal  $-CH(OH)(OR^1)$  wherein  $R^1$  is as defined above, ketal, hemiketal, oxo, thione, imino, formyl, acyl, carboxy, thiocarboxy, thiocarboxy, imidic acid  $-C(=NH)OH$ , hydroxamic acid  $-C(=NOH)OH$ , ester  $-C(=O)OR^1$  wherein  $R^1$  is as defined above, acyloxy, oxycarboxyloxy, amino, amido, thioamido, acylamido, aminocarbonyloxy, ureido, guanidine, tetrazolyl, amindino, nitro, nitroso, azido, cyano, isocyano, cyanato, isocyanato, thiociano, isothiociano, sulfhydryl, thioether, disulfide, sulfine, sulfone, ~~sulfonic acid~~  $-S(=O)OH$ ,  $-SO_2H$ , ~~sulfonic acid~~  $-S(=O)_2OH$ ,  $-SO_3H$ , sulfinate, sulfonate, sulfinyloxy, sulfonyloxy, sulfate, sulfamyl, sulfonamide, sulfamino, sulfonamino, sulfinamino, phosphino, phosphor, phosphinyl, phosphono, ~~phosphone ester~~  $-$

P(=O)(OR<sup>17</sup>)<sub>2</sub> wherein R<sup>17</sup> is -H or C<sub>1-7</sub> alkyl group or C<sub>3-20</sub> heterocyclyl group or C<sub>5-20</sub> aryl group, phosphonoxy, phosphonoxy ester -PO(=O)(OR<sup>17</sup>)<sub>2</sub> wherein R<sup>17</sup> is as defined above, phosphorous acid -OP(OH)<sub>2</sub>, phosphate, phosphoramidite, or and phosphoramidate; and wherein heteroatoms of the heterocyclyl groups and the optional heteroatoms of the alkylene groups are independently selected from the group consisting of N, S, and O.

36. (Previously presented) A compound according to claim 35, wherein R<sup>10</sup> is Troc.
37. (Previously presented) A compound according to claim 35, wherein R<sup>11</sup> is a silyl oxygen protecting group or THP.
38. (Currently amended) A compound of formula I:



for use in the synthesis of a compound of formula III:



wherein:

R<sup>6</sup> and R<sup>9</sup> are independently selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo;

R and R' are independently selected from optionally substituted

C<sub>1-12</sub> alkyl, C<sub>3-20</sub> heterocyclyl and C<sub>5-20</sub> aryl groups;

R<sup>7</sup> is selected from H, R, OH, OR, SH, SR, NH<sub>2</sub>, NHR, NRR', nitro, Me<sub>3</sub>Sn and halo,

the compound of formula III being dimer with each monomer being of formula III, where the  $R^8$  groups of each monomer form together a dimer bridge having the formula  $-X-R''-X-$  linking the monomers, where  $R''$  is a  $C_{3-12}$  alkylene group, which chain may be interrupted by one or more heteroatoms and/or aromatic rings, and each X is independently selected from O, S, or NH; or any pair of adjacent groups from  $R^6$  to  $R^9$  together form a group  $-O-(CH_2)_p-O-$ , where p is 1 or 2;

$R^{10}$  is a carbamate-based nitrogen protecting group, or either  $R^{10}$  and  $R^{16}$  together form a double bond between N10 and C11, or  $R^{10}$  is H and  $R^{16}$  is OH;

$R^{11}$  is an oxygen protecting group or H;

$R^2$  is a labile leaving group; and

$R^{15}$  is an optionally substituted  $C_{5-20}$  aryl group,

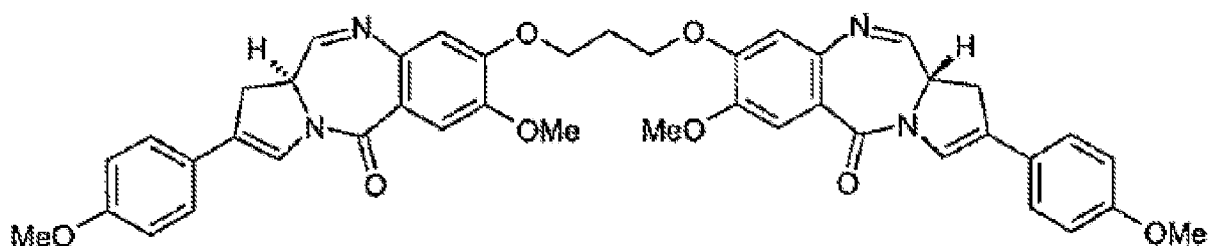
wherein the ~~optionally optional~~ substituents are independently selected from the group consisting of  $C_{1-12}$  alkyl,  $C_{3-12}$  cycloalkyl,  $C_{3-20}$  heterocyclyl,  $C_{5-20}$  aryl, halo, hydroxyl, ether  $-OR$  wherein R is a  $C_{1-7}$  alkyl group or  $C_{3-20}$  heterocyclyl group or  $C_{5-10}$  aryl group, alkoxy, acetal  $-CH(OR^1)(OR^2)$  wherein  $R^1$  is as defined above and  $R^2$  is independently a  $C_{1-7}$  alkyl group or  $C_{3-20}$  heterocyclyl group or  $C_{5-10}$  aryl group or  $R^1$  and  $R^2$  together with the two oxygen atoms to which they are attached form a heterocyclic ring having from 4 to 8 ring atoms, hemiacetal  $-CH(OH)(OR^1)$  wherein  $R^1$  is as defined above, ketal, hemiketal, oxo, thione, imino, formyl, acyl, carboxy, thiocarboxy, thiocarboxy, imidic acid  $-C(=NH)OH$ , hydroxamic acid  $-C(=NOH)OH$ , ester  $-C(=O)OR^1$  wherein  $R^1$  is as defined above, acyloxy, oxycarboxyloxy, amino, amido, thioamido, acylamido, aminocarbonyloxy, ureido, guanidine, tetrazolyl, amindino, nitro, nitroso, azido, cyano, isocyano, cyanato, isocyanato, thiociano, isothiocyano, sulfhydryl, thioether, disulfide, sulfine, sulfone, sulfonic acid  $-S(=O)OH$ ,  $-SO_2H$ , sulfonic acid  $-S(=O)_2OH$ ,  $-SO_3H$ , sulfinate, sulfonate, sulfinyloxy, sulfonyloxy, sulfate, sulfamyl, sulfonamide, sulfamino, sulfonamino, sulfinamino, phosphino, phosphor, phosphinyl, phosphono, ~~phosphone ester~~  $-P(=O)(OR^{17})_2$  wherein  $R^{17}$  is  $-H$  or  $C_{1-7}$  alkyl group or  $C_{3-20}$  heterocyclyl group or  $C_{5-20}$  aryl group, ~~phosphonooxy~~, ~~phosphonooxy ester~~  $-PO(=O)(OR^{17})_2$  wherein  $R^{17}$  is as defined above, ~~phosphorous acid~~  $-OP(OH)_2$ , phosphate, phosphoramidite, ~~or and~~ phosphoramidate; and wherein heteroatoms of the heterocyclyl groups and the optional heteroatoms of the alkylene groups are independently selected from the group consisting of N, S, and O.

39. (Previously presented) A compound according to claim 19, wherein  $R^7$  is OR.

40. (Previously presented) A compound according to claim 19, wherein  $R^7$  is OMe.

41. (Previously presented) A compound according to claims 14 wherein  $R^{15}$  is a  $C_{5-20}$  aryl group optionally substituted with a substituent selected from the group consisting of R, OH, OR,  $NH_2$ , NHR, NRR', CN,  $C(=O)H$ ,  $C(=O)OH$  and halo.
42. (Previously presented) A compound according to claim 14, wherein  $R^{15}$  is a  $C_{5-20}$  aryl group substituted by OR.
43. (Previously presented) A compound according to claim 14, wherein  $R^{15}$  is a  $C_{5-20}$  aryl group substituted by OMe.
44. (Previously presented) A compound according to claim 14, wherein  $R^6$  is H,  $R^7$  is OMe, X is O,  $R''$  is  $(CH_2)_3$ ,  $R^9$  is H,  $R^{10}$  and  $R^{16}$  together form a double bond between N10 and C11, and  $R^{15}$  is para-methoxyphenyl.
45. (New) The compound of claim 14, wherein  $R''$  is a  $C_{3-12}$  alkylene group interrupted by one or more heteroatoms, wherein the one or more heteroatoms are independently selected from the group consisting of O, S, and N.

46. (New) A compound of the following formula:



or a pharmaceutically acceptable salt thereof.

47. (New) The compound of claim 14, wherein R and R' are unsubstituted.
48. (New) The compound of claim 14, wherein  $R^{15}$  is an unsubstituted  $C_{5-20}$  aryl group.
49. (New) The compound of claim 14, wherein  $R^{15}$  is a singly substituted  $C_{5-20}$  aryl group.